

# Analysis of differential expression in tumor and matched normal tissues

YY Ying Yuan

Updated date: Jul 1, 2023

 An abbreviated version of this protocol was published in Chinese Journal of Cancer Research in Feb 2021

Pan-cancer analyses demonstrate that ANKRD6 is associated with a poor prognosis and correlates with M2 macrophage infiltration in colon cancer

DOI: 10.21147/j.issn.1000-9604.2021.01.10

## Detailed protocol

### 1、Expression analysis

- 1.1、ANKRD6 expression in cancers was analyzed with the Oncomine database (<https://www.oncomine.org/resource/login.html>)
- 1.2、The differential expression of ANKRD6 mRNA between tumor and normal tissues was analyzed by TIMER (TCGA gene expression RNA-seq data)
- 1.3、The differential expression of ANKRD6 mRNA between tumor and normal tissues was analyzed by GEPIA.

### 2、Prognosis analysis

- 2.1、Based on the Affymetrix microarray, we used PrognoScan technology to study the relationship between ANKRD6 expression and the prognosis of different cancers.
- 2.2、TCGA-RNA sequencing data were also used to analyze the prognostic potential of ANKRD6 in different cancers by GEPIA

### 3、Immune infiltration analysis

- 3.1、Using TIMER, we investigated the correlations between ANKRD6 expression and immune infiltration levels.
- 3.2、Using the CIBERSORT algorithm, we evaluated the abundance of TILs in the colon microenvironment using the TCGA gene expression data
- 3.3、We used IHC to analysis the correlation between different ANKRD6 expression levels and OS and M2 macrophages in colon cancer(CD68, CD163 and ANKRD6)

**How to cite:**(Readers should cite both the Bio-protocol preprint and the original research article where this protocol was used)

1. Yuan, Y. (2023). Analysis of differential expression in tumor and matched normal tissues. Bio-protocol Preprint. [bio-protocol.org/prep2358](https://bio-protocol.org/prep2358).
2. Bai, R., Wu, D., Shi, Z., Hu, W., Li, J., Chen, Y., Ge, W., Yuan, Y. and Zheng, S.(2021). Pan-cancer analyses demonstrate that ANKRD6 is associated with a poor prognosis and correlates with M2 macrophage infiltration in colon cancer. Chinese Journal of Cancer Research 33(1). DOI: [10.21147/j.issn.1000-9604.2021.01.10](https://doi.org/10.21147/j.issn.1000-9604.2021.01.10)

**Copyright:** © 2023 The Author(s); This is an open-access article under the CC BY-NC license (<https://creativecommons.org/licenses/by-nc/4.0/>).